Livestock marketing studies

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Introduction

Marketing is an important aspect of any livestock system. It provides the mechanism whereby producers exchange their livestock and livestock products for cash. The cash is used for acquiring goods and services which they do not produce themselves, in order to satisfy a variety of needs ranging from food items, clothing, medication and schooling to the purchase of breeding stock and other production inputs and supplies.

A major objective of pastoral systems research (PSR) is to increase productivity and improve the standard of living of pastoralists. Interventions for increasing productivity generated by PSR will have costs and returns associated with their adoption. It is therefore essential that such interventions are not only technically feasible and socially acceptable, but also economically feasible. In other words, the incremental returns of the interventions must out-weigh the additional costs incurred in adopting them. Both input and output prices fluctuate over time. Researchers must, therefore, establish the sensitivity of interventions by establishing within what range of input and output prices they are stable. Time series data on prices pastoralists are paid for their livestock and livestock products as well as prices they pay for inputs are essential for such analysis. Unfortunately, in most African countries while time series data on input prices may be available, they are almost non-existent for livestock prices.

The collection of time series data on product and input prices, however, is not a function of PSR scientists. This should be the responsibility of the ministries servicing the livestock and agricultural sector. The purpose of this paper is to underscore the

necessity of studying livestock markets and routinely collecting time series data on prices of livestock at local, regional and terminal markets. Based upon the experience of ILCA economists and other researchers in Africa it outlines a methodology, which can be easily adopted by the relevant ministries of African countries in setting up a systematic collection and analysis of livestock market information. The second section provides the rationale for undertaking livestock marketing studies. A simplified livestock marketing system model is presented in the third section. A methodology for regularly collecting time series data and for conducting in-depth studies on livestock marketing is then given, followed by illustrated suggestions for the analysis of data. A suggested national organizational framework for collecting and analysing livestock market data is presented in the last section.

Why study livestock markets?

As already stated, in most African countries there is a severe paucity of time series data on livestock prices as well as on the performance and efficiency of the livestock marketing system. Ironically, livestock marketing happens to be a favourite sector, where African governments choose to intervene in a variety of ways. These interventions range from outright fixing of wholesale and retail meat (e.g. Benin, Ethiopia, Togo) to monopolising the export market (e.g. Botswana, Kenya). Yet in many instances policy decisions on livestock marketing are taken in the absence of vital information on how they affect livestock producers, traders, slaughter-houses, butchers and consumers. Very often price fixing at unrealistic levels leads to open black markets, where the real prices substantially differ from those officially listed. In spite of this the official prices constitute the price series data, which clearly distort any analysis based on them.

Even when governments pursue price stabilisation policies it is difficult, in the absence of livestock market data, to establish to what degree their effects are transmitted to the level of producers.

The absence of data on the magnitude and seasonality of supply as well as prices can frustrate the success of development

projects. The closure of the meat packing plant at Kotsi in Sudan after a few months of operation is a case in point (Abbot, 1979).

It is often argued that the stratification of the beef industry into areas of breeding, growing out and fattening should be pursued; this is often included in livestock development projects without much success. The comparative advantage of such a proposal cannot be fully assessed without determining the long-term stable price margins between the areas of stratification.

An important use of time series data is in assessing over time the terms of trade between livestock producers and the rest of the economy. This assessment can be made using weighted price indices of a pastoralists' consumption basket and comparing it to the weighted price indices of their sales basket (Swift, 1979). Such an analysis should be made from time to time to gauge and temper the effect of price policies on pastoralists, who depend on the market for subsistence much more than agricultural households.

Thus in any country, livestock marketing studies are essential to provide vital information on the operations and efficiency of the livestock marketing system for effective research, planning and policy formulation in the livestock sector.

A livestock marketing system model

A schematic representation of a livestock marketing system is shown in Fig 1. The bottom part shows the flow of livestock from producers to secondary (regional) and terminal (national) markets through one or more primary collection markets. Livestock markets can easily be differentiated by the type of sellers and buyers operating in the market and the purpose for which livestock are purchased. Table 1 summarises these attributes for three types of livestock markets (Ariza Nino et al, 1980).

Table 1. *Characteristics of livestock markets.*

Type of market	Main sellers	Main buyers	Purpose of purchase
1. Primary collection markets	Producers	Other producers	For stock replacement or fattening
		Local butchers	Slaughter
		Traders	Collection for resale in larger regional markets
2. Secondary distribution markets	Traders	Local butchers	Slaughter
		Traders	For resale in terminal markets
3. Terminal markets	Traders	Local slaughter-houses	Slaughter
		Traders	Export

The top of Fig. 1 shows the external and internal factors that influence the livestock marketing system. First on the supply side the cash needs of producers, the strength of demand for their livestock, and pastoralists' expectation of the nature and length of the dry and wet seasons influence the volume of the different species of livestock on offer at any time. The higher the cash needs of the pastoralists the greater the volume of livestock on offer. Their response to market demand has been a subject of controversy in the literature (Carlisle and Randag, 1970; Hill, 1970; Khalifa and Simpson, 1972; Low et al, 1979; Jarvis, 1980). However, there is growing evidence that pastoralists in fact dispose of their marketable animals in a manner consistent with sound economic behaviour (Ariza Nino et al,1980). In other words the stronger the effective market demand as expressed by high prices, the greater the volume of livestock supplied. Finally, pastoralists' perception of the climate influences supply and hence the price of livestock. Anticipation and

occurrence of prolonged dry seasons induce more sales. The poor condition of the animals plus the greater numbers supplied during such times depress livestock prices. On the other hand the anticipation and occurrence of good rains causes pastoralists to withhold animals from the market so that they can put more weight and fetch better prices later on.

Second, government policy through fiscal, regulatory and development intervention affects the volume, flow and prices of livestock in the marketing system. Favourable fiscal policies that encourage livestock production and reduce costs to producers increase the supply of livestock, e.g. subsidies, and price stabilisation policies. On the other hand taxes and levies of all kinds tend to restrict the volume supplied. The control of epidemic diseases, the proper development of range areas and the development of trek routes and livestock market facilities tend to increase the volume supplied and reduce marketing costs. In general government monopolistic tendencies and the fixing of artificially low prices stifle market supply and demand.

Finally, market demand as expressed by the volume and prices buyers are willing to pay for livestock influences the behaviour of the markets at all links in the system. The efficiency of the market as reflected by the marketing costs of the system and to what extent price changes are transmitted through the marketing system strongly influence the operation of the markets. The less efficient the market the less responsive will supply be to changes in market demand.

Livestock market research methodology

Livestock marketing systems research involves a two-pronged approach. The first involves the regular collection of time series data from a network of selected livestock markets. The second deals with in-depth studies of the performance efficiency of the livestock marketing system at the various links of the chain as livestock move from producers to the consumers.

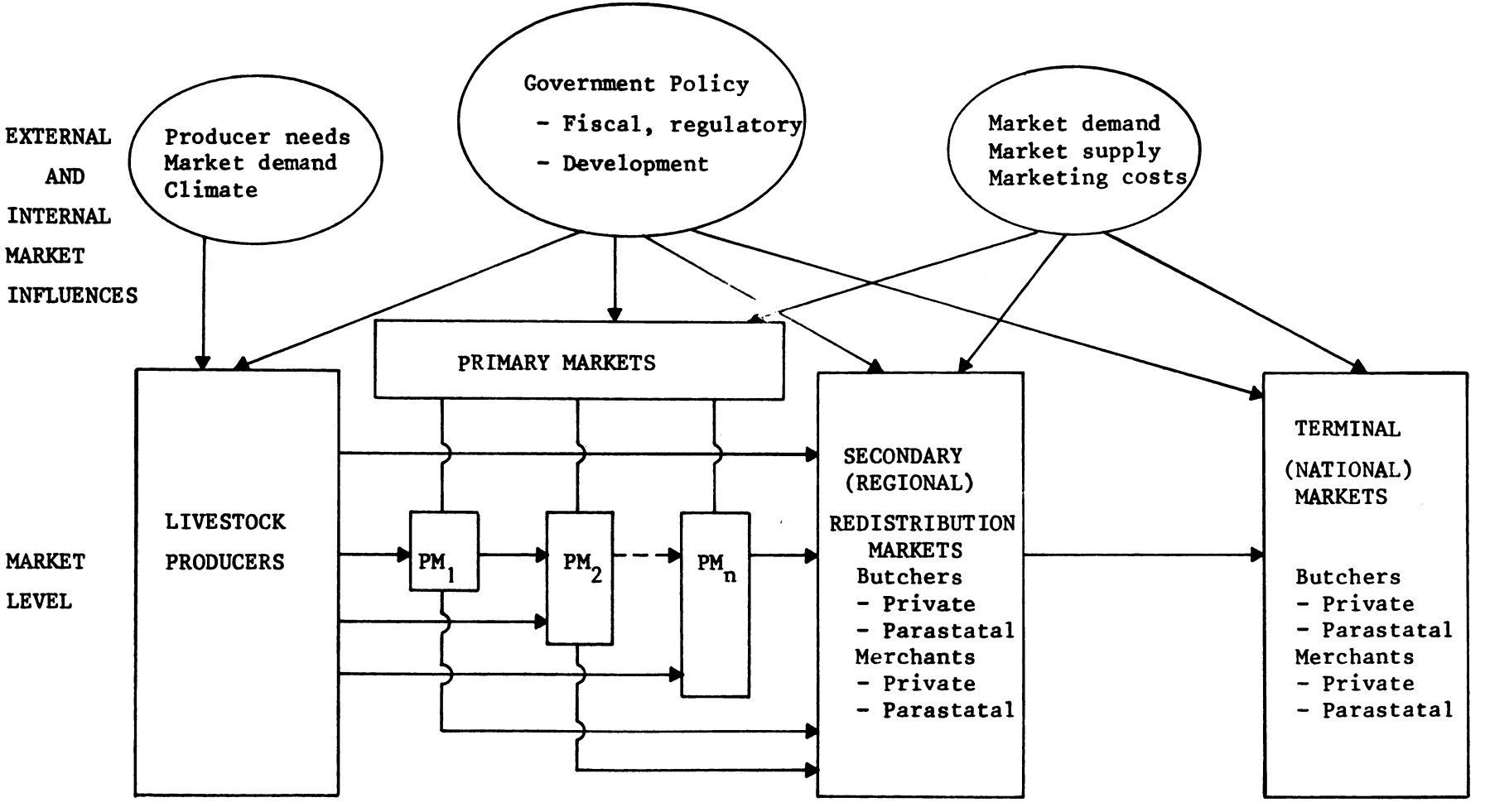

Figure 1. *Livestock marketing system model.*

Collection of time series data

Identification and selection of livestock markets

The first consideration in setting up a livestock market data collection network is the identification of livestock markets and the selection of those markets to be included in the network.

Livestock markets in each administrative unit of a country, classified in the manner described in previous section, can be put on a map with arrows indicating the direction of flow of livestock by species. Extension staff can be effectively used to provide information for such classification and estimating roughly the volume of different species of livestock offered for sale on each market day. Fig. 2 provides an example using cattle markets in Upper Volta.

The selection of which markets to include in the network, like any sampling problem, is a function of the coverage desired and the resources available for collecting the information. If there are several primary collection markets feeding a secondary redistribution market, it is not necessary to regularly collect data from all of them. A few can be selected on the basis of location, distance from the secondary market and the volume of supply. Seasonal observations can then be used to correlate those left out from the network with the secondary market in order to estimate their supply and prices.

Types of livestock market data to be collected

The volume of livestock on offer at the market is important as it gives a picture of the supply as well as its influence on prices. If possible the volume should be recorded by species, sex and age. Such information is easier to obtain in fenced markets where there are controlled gates. It may be difficult in open areas where livestock are bunched together in mobs. In such cases number by species is sufficient. The sex and age structure can be estimated by sampling the mobs seasonally.

The number of sellers and buyers participating in the market should be recorded to indicate the degree of concentration and hence influence on the price of livestock and offtake.

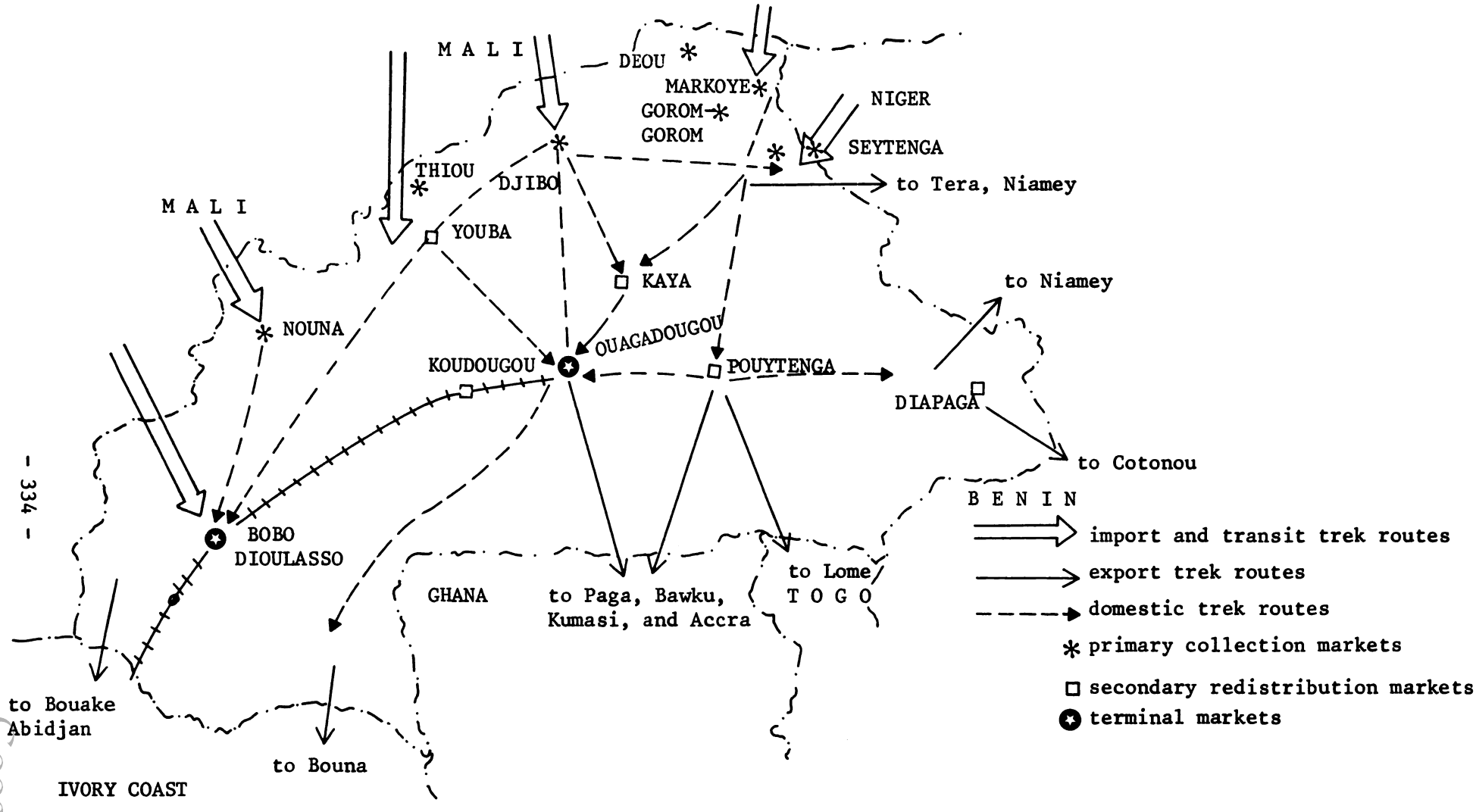

Fig 2. *Major cattle markets and flows in Upper Volta.*

Source: Ariza-Nino et al (1980).

The price of livestock transacted should be recorded by breed, sex and age either on a census or sampling basis depending on the volume and the number of enumerators available. For large markets where there are more than 200 animals sold per species a 25-30% sample is desirable. In a market where one expects two breeds and their crosses this yields a minimum of three to six observations per class of animal by breed, sex and age.

A survey of prices producers receive should be made periodically to establish their relationships with market prices.

The weight of traded animals in the sample if possible, should be recorded. However, it may be difficult to weigh livestock in unorganised markets, where there is no auctioning on a weight and grade basis. In such cases visual assessment of body size (large, medium, small) and body condition (good, fair, poor) coupled with the age category of the animal can give a good indication. Weight correlations with body size and body condition can be established from the nearest abbatoirs.

The destination and purpose of traded animals should be recorded as such information will give a good picture of the direction and magnitude of flow and the purpose for which animals are purchased.

The mode of transport should be recorded as it will show the importance of trekking, railing and trucking over time.

All of the above information should be recorded by field officers or enumerators from the selected markets on the market days predetermined by the market research officers. In addition to this they should comment on conditions that influence the supply and demand situation for that market day.

Frequency of data collection

Once the livestock markets from which data will be regularly collected are determined, the next question is at what frequency should the data be collected? This depends on the type of livestock market in question and the frequency of market days. In primary livestock

markets livestock are usually traded once or twice a week. Market days of secondary or regional livestock markets do occur more frequently. The frequency of a terminal market-day may be as much as six times a week.

It is desirable for time series analysis to have weekly data but it is not necessary to collect data at each market day. It can be collected on a sampling basis after establishing the representativeness of the market days with respect to the week. Are all market days held during the week similar or are some market days more important than others in terms of volume offered and volume traded? For instance if in a secondary livestock market both Wednesdays and Fridays are market days and Fridays tend to be more important, one can establish the factor (X) by which the volume supplied and the volume traded is greater than on Wednesdays by conducting an initial survey of the market as well as crosschecking the information by interviewing buyers and sellers in the market. This factor can then be used to estimate the market parameters that pertain to the Wednesday markets from data collected on Friday markets.

In livestock markets where there is only one market day per week a similar approach can be taken in sampling one week or two weeks per month. However, one has to be cautious and take into account that seasonal changes will be captured by such sampling.

In many African countries (e.g. Ethiopia and Nigeria) the occurrence of major religious (Christian and Muslim) holidays has a market effect on supply, demand and prices of livestock, especially those of smallstock. Demand is high during these holidays and prices can be 80% more than the annual average price (Okali and Obi, 1982). It is therefore essential to intensify livestock market data collection during such holidays in order to accurately assess their impact on the various market parameters.

Studies of market performance and efficiency

Studies of the performance and efficiency of the livestock marketing system at the various links of the chain as livestock move from producers to consumers (including the wholesale and retail trade of meat) have to be conducted by a senior livestock market analyst who is in charge of the entire livestock market data collection and analysis with assistance in the field by his colleagues at headquarters and the provincial livestock marketing officers (see Section 6). The reason for this is two-fold. First the observations and probings necessary to get the information require a high degree of skill and experience. Secondly, the senior market analyst has to acquire a first-hand insight into how the livestock market operates in order to properly analyse and interpret the time series data being collected by the field officers.

Studies of market performance and efficiency include two major aspects of the livestock marketing system. The first is an assessment of the degree of buyer concentration in the markets selected for time series data collection and how livestock prices are arrived at and purchasing is financed. Although the number of buyers and how many animals they bought in the market can be recorded by field enumerators, assessing the manner in which they operate, whom they represent, in how many other livestock markets they trade, and how they finance their purchase requires a considerable degree of skill and market knowledge to elicit.

The second study involves establishing the cost of livestock and meat marketing as animals change hands from the producer to the primary markets, to the secondary markets and finally to the terminal markets, where they are slaughtered for domestic consumption and/or are exported live.

These marketing costs can be distinguished as costs of:-

(i) transporting (trekking, trucking and/or railing);
(ii) feeding (including grazing);
(iii) marketing levies and taxes imposed by local and national authorities;

(iv) mortality or loss (some animals die during transit because of diseases or other physical stress; some might stray and not be recovered);

(v) slaughtering and processing costs;

(vi) capital as represented by the interest on the money tied up by the livestock from the point of purchase to the point of sale; and

(vii) the opportunity cost or salary of the operator (trader, butcher etc.).

The above information can be established by interviewing livestock traders and managers of slaughterhouses and spot checking the information by actual observation on their operations. Livestock marketing margins can be defined as the difference between the sales price of the animal (meat) and the costs incurred by the seller including the acquisition price of the animal (meat). The less the margins the more efficient the marketing system.

Analysis of livestock market data

The types of analysis of livestock market data are categorised under four major headings:-

(i) supply of livestock;

(ii) destination of livestock;

(iii) price movements; and

(iv) market performance and efficiency

Supply of livestock

The sources of livestock supplying the particular market can be analysed using frequencies of traded animals by area of origin by breed, sex, age and total volume. This indicates what types of animals are supplied by each area and the frequencies can be used to estimate marketed offtake from the hinterland of the market.

A problem which frequently arises in such analysis is to what detail origins of livestock need to be specified. One can *a priori* section the hinterland by a functional criterion (geographic, type of producer or source) and instruct enumerators to categorise

origins of livestock into the specified sections. Alternatively, one can instruct them to record place names of the origins of livestock and decide later how to categorise them. Table 2 shows an example of such an analysis by type of producers.

Table 2. *Source of cattle supply to the Emali market.*

Source	No. of cattle	%
Group ranches in Kajiado district	1143	77.9
Trading centres serving group ranches in Kajiado district	292	19.9
Individual, ranches Kajiado district	23	1.6
Farms in Machakos district	9	0.6
TOTAL	1467	100

Source: Bekure et al (1982).

Destination of traded livestock

The frequencies of traded livestock by breed, sex, age and purpose of purchase for major destinations reveals the relationships between various livestock markets as well as the trade in livestock between pastoralists, agro-pastoralists and agriculturalists. Tables 3 and 4 show such an analysis for selected destinations.

Table 3. *Destination of cattle trade at Emali.*

Purpose	Destination	No.	% of slaughter	% of production	% Total
Slaughter	Ong'ata Rongai	510	32	n.a.	20
	Dagoretti	214	13	n.a.	8
	KMC - Athi River	242	15	n.a.	9
	- Mombasa	9	1	n.a.	0
	Mariakani	211	13	n.a.	8
	Emali	25	2	n.a.	1
	Others	380	24	n.a.	15
	Subtotal slaughter	1 591	100	n.a.	61
Production	Machakos district	612	n.a.	62	24
	Group ranches Kajiado	341	n.a.	34	13
	Individual " "	40	n.a.	4	2
	Subtotal production	993	n.a.	100	39
TOTAL		2 584	100	100	100

Source: Bekure et al (1982)

The total volume and fluctuation of livestock supply are of major interest as they show the degree of seasonality of supply. This can be easily seen by plotting weekly or monthly supplies (e.g. see Fig.3). For long-term determination of seasonality several years' time series data is essential. A standard statistical technique for estalishing seasonality is the method of moving averages (Yamane, 1967; Croxton et al, 1969).

Table 4. *Characteristics of cattle bought at Emali for destination to Machakos and Kajiado group and individual ranches.*

Breed	Machakos			Kajiado group and individual ranches			Total
	male	castrate	female	male	castrate	female	
Maasai zebu							
Immature	404	88	2	61	249	15	819
Adult	26	51	35	17	27	10	166
Subtotal	430	139	37	78	276	25	985
Sahiwal cross							
Immature	-	-	-	-	1	-	1
Adult	-	-	-	-	-	1	1
Subtotal	-	-	-	-	1	1	2
Boran cross							
Immature	-	6	-	-	-	-	6
Adult	-	-	-	-	-	-	-
Subtotal	-	6	-	-	-	-	6
TOTAL	430	145	37	78	277	26	993
GRAND TOTAL	**612**			**381**			

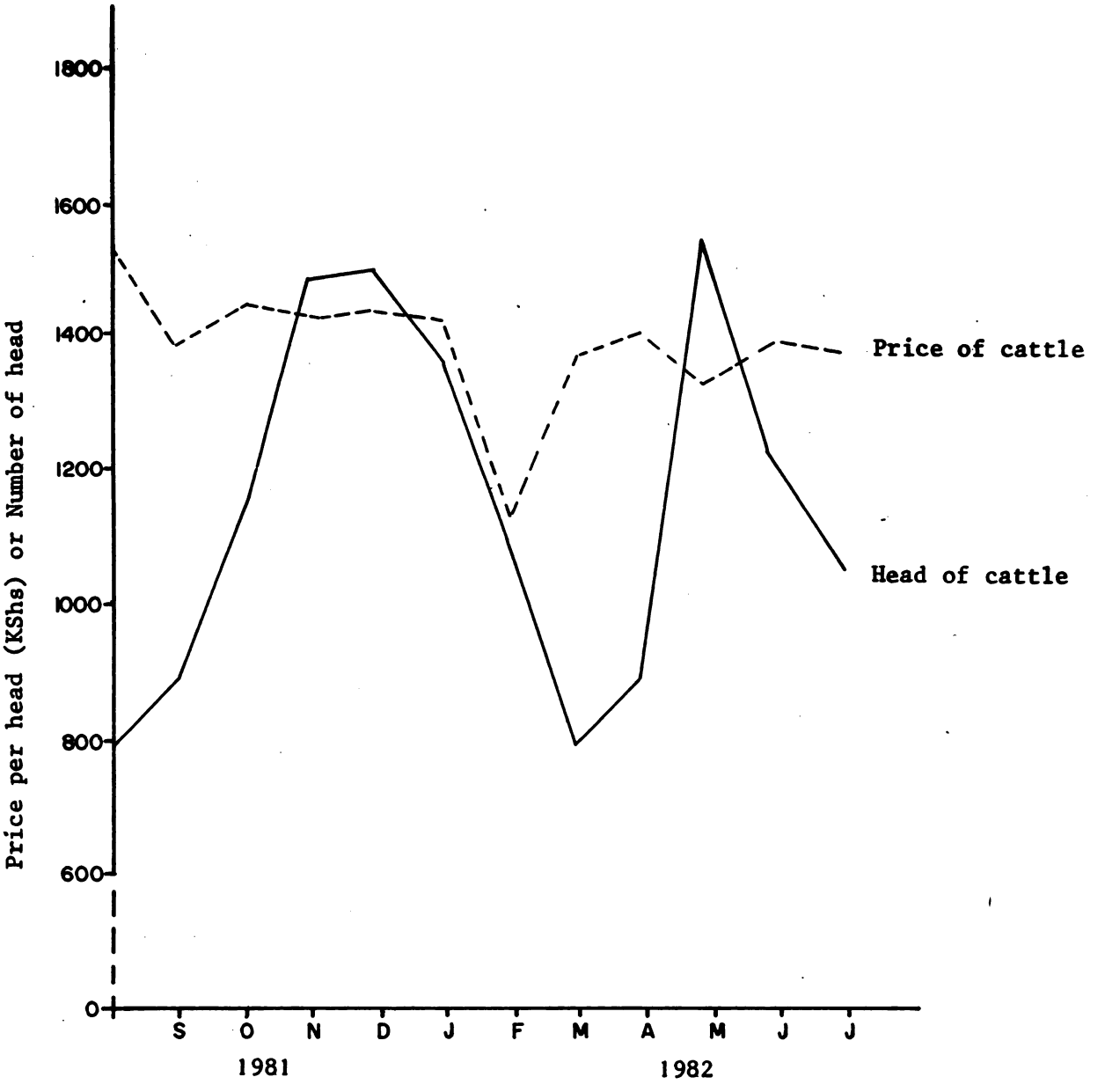

Fig 3. *Mean monthly supply and price per head at Emali market.*

Source: Bekure et al (1982).

Livestock prices

The most important single parameter in collecting time series data on livestock marketing is livestock price. For a given market and a given period (week, month, year) mean livestock prices per head and liveweight can be analysed by breed, sex and age. Table 5 gives an example of such analysis.

The next analysis is that of determining whether there are seasonalities in livestock prices. Seasonality of prices can be determined by type of animals sold. The methodology is similar to that of determining seasonality in supply of livestock. Fig. 3 illustrates an example. However, several years' data are required to establish long-term seasonality.

Finally, a stepwise multiple regression analysis can be used to fit a demand model for a given market relating price to breed, sex, age, season, volume of supply and number of buyers in the market as well as the interactions between these independent variables (Drapper and Smith, 1966). The longer the time series data the better the specification of the demand function. The value of the demand function does not lie so much in its ability to predict future prices but in its usefulness in quantifying the relationships between livestock prices and breed, sex, age, season of the year, type of market and other variables one may specify. Shapiro (1979) analysed price of cattle in Upper Volta as a function of age, sex, season of the year, region of the market, type of seller etc. The results of the regression are summarised as follows:

- Prices for males increase at an increasing rate with age, up to 5.7 years (average 5,000 CFA F per year overall); they increase at a decreasing rate to age 11.4, where they begin to fall.
- No strong age-price relation was found for females.
- A premium of 1,500 CFA F was paid for steers over bulls at all ages.
- Only slight evidence of higher prices was found for sales closer to major consumption and export centres.

- No difference was found between ethnic groups as sellers.
- Higher prices occur during the rainy season, lowest during the dry season; males hold their prices better than females during the dry season.
- The amount of seller market information had no significant effect on prices.
- Higher prices were paid for males when they were sold to butchers and traders; females brought higher prices when sold to herders and farmers.
- The type of market had no significant effect on prices.

The foregoing analysis on time series data of livestock markets can be done on district, province and national levels to give information at various levels of aggregation.

Market performance and efficiency

Analysis of the studies of the operations of livestock markets yield in the first instance qualitative and quantitative information on the operations of the markets that is useful in analysing and interpreting the time series data generated. There is no set way of analysing such data. Market analysts have their own approach which is acquired through experience. Two examples of calculations of marketing margins are given in Tables 6 and 7. Studies of the well established traditional marketing systems in West Africa, which also deal with exporting live cattle from the northern pastoral areas to the coastal zone, show that they perform efficiently (with gross margins of 15-20%) despite their traditional base and complexity (Herman, 1979; Staatz, 1979). Our own work (Bekure et al, 1982) and that of Matthes (1979) in Kenya show that marketing margins are much higher (25-35%).

Table 5. *Mean prices of cattle at Emali by breed, sex and age - September 1981 to September 1982.*

Breed	Sex	Immature		Adult		All ages	
		per head	per kg	per head	per kg(LWT)	per head	per kg
Small E.A. zebu	male KSh	645	3.70	1 478	4.91	914	4.16
	(N)	(761)	(15)	(364)	(9)	(1125)	(24)
	castrate: KSh	866	4.76	1 603	5.70	1249	5.52
	(N)	(660)	(26)	(714)	(112)	(1374)	(138)
	female: KSh	886	4.83	998	4.87	984	4.87
	(N)	(62)	(2)	(446)	(31)	(508)	(33)
	All sexes:KSh	753	4.39	1 396	5.48	1 079	5.24
	(N)	(1483)	(43)	(1524)	(152)	(3007)	(195)
	% Grand total	48.5%		50%		98.5%	
Sahiwal cross	male: KSh	1284	-	2150	4.42	1284	4.42
	(N)	(5)	-	(2)	(2)	(7)	(2)
	castrate: KSh	1378	-	2159	6.08	1908	6.08
	(N)	(9)	-	(19)	(9)	(28)	(9)
	female: KSh	-	-	1683	5.0	1683	5.0
	(N)	-	-	(3)	(1)	(3)	(1)
	all sexes: KSh	1337	-	2099	5.71	1776	5.72
	(N)	(14)	-	(24)	(12)	(33)	(12)
	% Grand total	-		1%		1.2%	
Boran cross	castrate: KSh	600	-	-	-	600	-
	(N)	(6)	-	-	-	(6)	-
	% Grand total	-	-	-	-	-	-
all breeds	males : KSh	649	3.70	1482	4.82	916	4.18
	(N)	(766)	(15)	(366)	(11)	(1132)	(26)
	% Grand total	25%		12%		37%	
	castrates: KSh	870	4.76	1617	5.73	1259	5.55
	(N)	(675)	(26)	(733)	(121)	(1408)	(147)
	% Grand total	22 %		24 %		46 %	

Table 5 cont.

	females: KSh	886	4.83	1 002	4.87	908	4.87
	(N)	(62)	(2)	(449)	(32)	(511)	(34)
	% Grand total	2%		15%		17%	
Grand total:	KSh	758	4.39	1 407	5.50	1 087	5.27
	(N)	(1503)	(43)	(1548)	(164)	(3051)	(207)
	% Grand total	49%		51%		100%	

Table 6. *Wholesale butchers' margins in Ouagadougou (in CFA F per head).*

	CFA F per head
Costs	
Intermediary's commission	250
Holding fee	100
Slaughter tax	1,000
Condemnation loss[a]	150
Apprentices' salaries[b]	200
Purchase price	31,250
	32,950
Revenues	
Sale of meat[d]	31,250
Sale of fifth quarter[e]	5,250
	36,500
Margin	3,550

Source : Ariza-Nino et al (1980)

[a]One half percent of meat was condemned in Ouagadougou in 1976.

[b]Average apprentice's salary 8,000 CFA F per month.

[c]Carcass weight 125 kg, 250 CFA per kg.

[d]Meat sold at purchase price of animal.

[e]Sales value of fith quarter is 42 CFA F per kg carcass weight.

Table 7. *Cattle marketing costs at Emali and Ong'ata Rongai.*

	KShs per head	Kshs per kg liveweight
Mean purchase price from producers	1 012	3.97
	65	0.26
Market costs up to Emali		
- trekking KSh 20.00		
- watering fee KSh 2.00		
- food and lodging KSh 12.00		
- transport KSh 4.00		
- loss - trading KSh 10.00		
- death(1/60) KSh 17.00		
Mean sales price at Emali	1 396	5.48
Trader's mean gross margin at Emali	319	1.29
Mean purchase price at Emali	1 396	5.48
Markeing costs up to Ong'ata Rongai	119	0.47
- County Council fees KSh 7.00		
- trekking fee KSh 20.00		
- watering fee KSh 2.00		
- food & lodging KSh 20.00		
- transport KSh 12.00		
- miscellaneous costs KSh 12.00		
- loss - trading KSh 14.00		
- death(1/60) KSh 32.00		
Mean sales price at Ong'ata Rongai	1 919	7.6
Trader's mean gross margin at Ong'ata Rongai	394	1.55

Source: Bekure et al (1982)

Organisation for collection and analysis of livestock market data

There cannot be a set way of organising a national livestock marketing data collection and analysis. One can only make a general suggestion which elaborates the main features. In the end the organisation to be adopted in a given country will have to take into account the prevailing conditions. What is suggested here is a flexible organisational framework which can be easily adopted with modification.

Figure 4 presents a schematic representation of a general organisational framework for the collection and analysis of livestock market data. It is based on the hierarchial structure most common to ministries of livestock, or agriculture in many African countries. Their field offices are usually hierarchially organized in conformity with administrative units of their respective countries. Thus, the ministries have field offices at provincial, district and occasionaly at locational levels, where field officers with secondary school education are posted.

It is suggested that the organisation for the collection and supervision of livestock market data follows the same structure. At the headquarters of the ministry a Livestock Marketing Analysis Section should be responsible for organising the collection, supervising and analysing all data on the livestock market system of the country. This section should be located within the Livestock Marketing Department so that it falls under the responsibility of a department with a functional commitment to the task. In ministries where there is no such department it may be placed under the Planning Unit. The section should be headed by a competent senior livestock market analyst with access to a statistician and data processing facilities. How big and permanent the staffing of the section should be is a function of the size and the importance of the livestock sector in the country. It should therefore be tailored to the needs of the country in question.

At the provincial level, it is suggested that a full-time junior market analyst be made responsible for supervising and partially analysing the data collected in the province. This will enable prompt supervision of data collection as well as facilitate

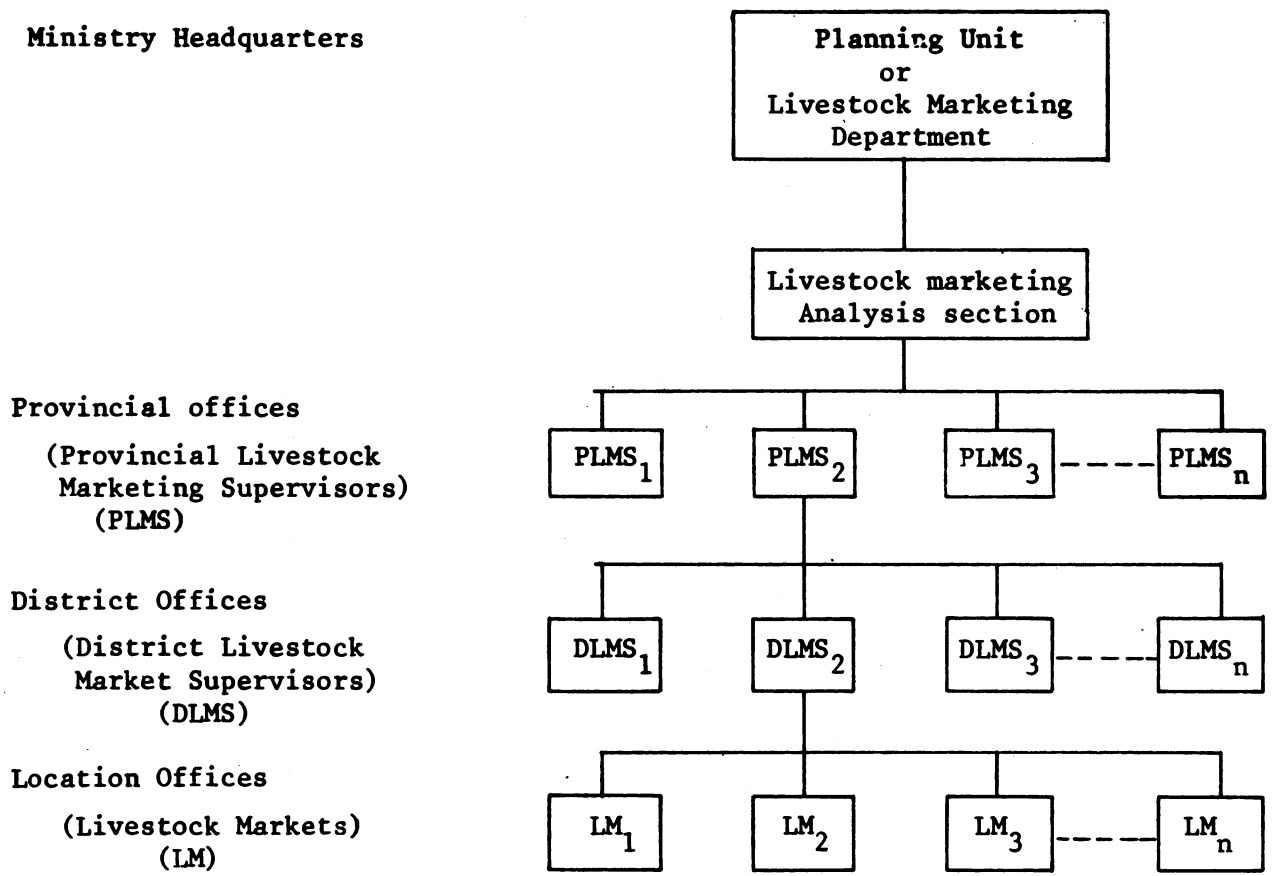

Fig 4. *Suggested organizational chart for setting up national marketing data collection and analysis system.*

feed-back of market data to market participants at the local level. For instance average weekly prices of important categories of livestock in major district markets can be compiled at the provincial office and promptly reported to the public by the mass media. This in itself may increase the efficiency of the livestock marketing system.

In addition to supervising and ensuring good quality data collection at the district level, the provincial livestock market analyst will be responsible for conducting in-depth livestock market studies under the direction and supervision of the senior livestock market analyst at the headquarters of the ministry.

At the district level, it is suggested that one of the already existing personnel of the ministry be made responsible for supervising data collection and passing the information to the provincial livestock market analyst. In many African countries district level personnel are university graduates with sufficient background to handle the task provided they are given adequate orientation and on the job training. In cases where the district is located in a major livestock trading region a full-time supervisor may be warranted.

At the market level it is our contention that most of the time series data collection on livestock markets can be conducted and supervised by existing personnel, who in many instances have offices a few yards from these markets. In case livestock markets, where no ministry officers are posted, are selected, other enumerators (e.g. teachers, bussinessmen etc.) may be contracted on a part-time basis, provided they are adequately supervised with unannounced spot checking. We have used this approach at Ong'ata Rongai, Kenya with good success.

In conclusion, we would like to reiterate that the above organisation is suggested only as a framework for consideration. In small countries or in countries where the network of livestock markets is small and caters for only one terminal market, as in Botswana, the whole organisation may mean one senior and two junior analysts being assisted by field enumerators.

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Etudes sur la commercialisation du bétail

Résumé

L'un des principaux objectifs de la recherche sur les systèmes pastoraux consiste à accroître la productivité et à améliorer le niveau de vie des éleveurs. L'adoption d'interventions engendrées par la recherche sur les systèmes pastoraux en vue de l'accroissement de la productivité implique à la fois des coûts et des gains. Il est par conséquent essentiel que ces interventions soient non seulement techniquement réalisables et socialement acceptables, mais aussi économiquement rentables. L'objectif du présent document est de souligner la nécessité d'étudier les marchés de bétail et de procéder à la collecte systématique de données chronologiques sur les prix du bétail, sur les marchés locaux, régionaux et finals.

Dans la plupart des pays africains sévit une grave carence de données chronologiques sur les prix du bétail de même que sur la performance et sur l'efficacité du système de commercialisation du bétail. Une représentation schématique d'un tel système qui montre le flux de bétail du producteur au marché secondaire (régional) et final (national) à travers un ou plusieurs marchés primaires est donnée. Les marchés de bétail peuvent être facilement différenciés par le type de vendeurs et d'acheteurs opérant sur le marché et par l'objectif de l'achat du bétail.

La recherche sur les systèmes de commercialisation du bétail implique une approche bi-directionnelle. La première fait appel à la collecte régulière de données chronologiques sur un réseau de marchés de bétail sélectionnés. La deuxième a trait à une étude approfondie de la performance et de l'efficacité du système de commercialisation du bétail aux diverses étapes de la chaîne qui conduit le bétail du stade de la production à celui de la consommation.

Dans la collecte de données chronologiques, la première chose à faire est de procéder à la mise en place d'un réseau de recueil de l'information sur les marchés de l'élevage qui permette d'identifier les marchés de bétail et de sélectionner les marchés à inclure dans

les réseaux. Les types de données des marchés de bétail à collecter incluent le volume du bétail disponible, le nombre de vendeurs et d'acheteurs, le poids des animaux échangés, la destination des animaux échangés et le mode de transport utilisé. La fréquence de la collecte des données dépend du type de marché de bétail en question et de la fréquence des jours de marché. Dans les marchés de bétail primaires, le bétail est généralement échangé une ou deux fois par semaine. Les jours de marché sont beaucoup plus fréquents sur les marchés secondaires ou régionaux de bétail. Sur les marchés finals, la fréquence des jours de marché peut atteindre six par semaine.

Les études sur la performance et l'efficacité du système de commercialisation du bétail aux diverses étapes de la chaine production-consommation doivent être effectuées par un expert-analyste des marchés de bétail chargé de la totalité des opérations de collecte et d'analyse de données sur les marchés de bétail avec l'assistance sur le terrain de ses collègues du siège et d'agents provinciaux chargés de la commercialisation du bétail. Les études sur la performance et l'efficacité des marchés portent sur deux aspects essentiels du système de commercialisation du bétail. Le premier a trait à une évaluation du degré de concentration des acheteurs dans les marchés sélectionnés en vue de la collecte de données chronologiques ainsi que sur la manière dont les prix du bétail sont déterminés et sur le mode de financement des achats. La deuxième étude fait appel à l'établissement des coûts de la commercialisation du bétail et de la viande à mesure que les animaux passent des mains du producteur au marché final, où ils sont abattus pour la consommation locale et/ou exportés sur pied, après avoir transité par les marchés primaires et secondaires.

Les types d'analyse des données sur les marchés de bétail sont catégorisés comme suit: offre de bétail; destination du bétail; fluctuation des prix; et performance et efficacité des marchés. Le paramètre le plus important dans la collecte de données chronologiques sur la commercialisation du bétail est le prix du bétail. Pour une période et pour un marché donnés, le prix par tête et par poids vif

peut être analysé par race, sexe et âge.

Un cadre organisationnel souple pour la collecte et l'analyse des données du marché est suggéré. Il se fonde sur la structure hiérarchisée qui est si commune aux ministères de l'élevage ou de l'agriculture dans plusieurs pays africains.